



NASA SBIR 2012 Phase I Solicitation

S5.02 Earth Science Applied Research and Decision Support

Lead Center: SSC

Participating Center(s): AFRC, ARC, GSFC, JPL

The NASA Applied Sciences Program (<http://nasascience.nasa.gov/earth-science/applied-sciences>) seeks innovative and unique approaches to increase the utilization and extend the benefit of Earth Science research data to better meet societal needs. One area of interest is new decision support tools and systems for a variety of ecological applications such as managing coastal environments, natural resources or responding to natural disasters.

This subtopic seeks proposals for utilities, plug-ins or enhancements to geobrowsers that improve their utility for Earth science research and decision support. Examples of geobrowsers include Google Earth, Microsoft Virtual Earth, NASA World Wind (http://worldwindcentral.com/wiki/Main_page) and COAST (<http://www.coastal.ssc.nasa.gov/coast/COAST.aspx>). Examples include, but are not limited to, the following:

- Visualization of high-resolution imagery in a geobrowser.
- Enhanced geobrowser animation capabilities to provide better visual-analytic displays of time-series and change-detection products.
- Discovery and integration of content from web-enabled sensors.
- Discovery and integration of new datasets based on parameters identified by the user and/or the datasets currently in use.
- Innovative mechanisms for collaboration and data layer sharing.
- Applications that subset, filter, merge, and reformat spatial data.
- Statistical tools and interfaces needed to downscale coarser resolution climate datasets for regional applications
- Rapid delivery of satellite data products and alerts concepts and architectures in case of emergency situation

This subtopic also seeks proposals for advanced information systems and decision environments that take full advantage of multiple data sources and platforms. Special consideration will be given to proposals that provide enhancements to existing, broadly used decision support tools or platforms. Tailored and timely products delivered to a broad range of users are needed to address air quality, public health and agriculture mapping and food security issues. Additional areas of interest will be to protect vital ecosystems such as coastal marshes, barrier islands and seagrass beds; monitor and manage utilization of critical resources such as water and energy; provide quick and effective response to manmade and natural disasters such as oil spills, earthquakes, hurricanes, floods and wildfires; and promote sustainable, resilient communities and urban environments.

Proposals shall present a feasible plan to fully develop and apply the subject technology.